Are potatoes becoming a thing of the past?






Round table organised by Potato Council and Fresh Potato Suppliers Association (FPSA)

Thursday 27 October 2011

Key facts

- **The GB potato industry is worth £743m at farm gate value and £3.5bn at retail level**
- **Potatoes can help to supply key nutrients where there is 'low intake' or 'low status' in the UK for some population groups, including potassium, zinc, iron, magnesium and vitamins C, B6, folate and thiamin**
- **Low-income families consume higher amounts of potatoes than the general population**
- **Great Britain has an ideal climate for potato growing – water usage for potatoes grown in Great Britain is 29% of that compared to the main potato exporting countries to Great Britain. 78% of water used in potato growing falls naturally to the ground and is used by the crop.**

Introduction

As the lifestyles of modern consumers change, so too does their pattern of food consumption. This has led to a gradual decline in the total amount of potatoes consumed in the UK, down 7.8% since 2005-6 against a 5.4% drop in fruit and vegetable consumption. There has also been a change in the way potatoes are bought and cooked. Potato Council and the Fresh Potato Suppliers Association (FPSA) convened a round table of leading stakeholders from across the industry to ask, are potatoes becoming a thing of the past?

The meeting was opened by presentations from Dr Elisabeth Weichselbaum of the British Nutrition Foundation; Judith Batchelar, Director of Sainsbury's Brand and Professor Leon Terry of Cranfield University. The discussion was chaired by Professor Judy Buttriss, Director General of the British Nutrition Foundation. We would like to extend our thanks to the chair, speakers and all those who took part for their valuable contributions.

The discussion was a lively debate with different views and arguments being aired. In summarising this, we have tried to accurately represent the overarching sentiment of the conversation rather each participant's point of view. As a result, this report does not represent the positions specifically held by Potato Council, FPSA or any of the participants individually or as organisations and should not be considered as such. The discussion was held under Chatham House rule and therefore all points are unattributed.

We would like to extend our thanks to the panel, who were chosen for their expertise in the largest challenges facing the industry; nutrition, sustainability, environmental impact and responding to consumer need. The subsequent discussion considered a wide range of issues grouped into key themes.

A healthy crop: the nutritional value of potatoes

- **Potatoes provide a number of key nutrients needed for a healthy balanced diet including Vitamin C, Vitamin B6, potassium, magnesium and folate and also fibre**
- **Potatoes are naturally low in fat and have fewer calories weight for weight than other comparable starchy foods**
- **Replacing potatoes with other starchy foods could potentially lead to decreased intake of some nutrients.**

The National Diet and Nutrition Survey (NDNS, 2000/01) shows that potatoes contribute a number of important nutrients in the nation's diet. For example, 18% of total potassium intake, 10% of magnesium intake, 15% of Vitamin C intake, 19% of Vitamin B6 intake and 12% of folate intake in the UK diet come from potatoes and savoury snacks.

A recent hypothetical model run by the British Nutrition Foundation explores the possible change in nutrient intake if the current consumption pattern of the main starchy foods consumed (potatoes, pasta and rice) was changed in either of two ways: (i) potatoes being fully replaced by rice and pasta, (ii) rice and pasta being fully replaced by potatoes (assuming that no other changes to the diet are made). The model suggested that if pasta and rice in the average UK diet were replaced by potatoes, this could lead to increases in intake of Vitamin C (+6.2%), Vitamin B6 (+9.6%), potassium (+6.2%), folate (+3.9%) and thiamin (+7.3%). The 2008 report from the Scientific Advisory Committee on Nutrition – 'The Nutritional Wellbeing of the British Population' identified that there were low intakes of iron, potassium and magnesium and 'low status' for vitamin B6, folate, thiamin and Vitamin C in some population groups in the UK.

Starchy carbohydrates are an important component of a balanced and healthy diet and make up a large part of the 'eatwell' plate model, despite modern myths, generally held by consumers, that carbohydrates lead to weight gain. As well as providing higher amounts of some nutrients than rice and pasta, potatoes are lower in calories weight for weight. Boiled white pasta and boiled white rice provide 104 kcal and 123 kcal per 100g respectively whereas boiled new potatoes provide 75 Kcal per 100g. By substituting potatoes with other starchy foods such as pasta or rice, there is a danger consumers will experience a drop in their intake of some vitamins and minerals.

Potatoes and '5 A day'

- **The rationale for 5 A Day was based on research gathered by the World Health Organisation to use for evidence to inform people how changing their diets can protect from certain diseases. The evidence gathered generally focused on fruit and vegetables in the diet and not potatoes as they are classified as a starchy food**
- **Potatoes provide higher amounts of some nutrients than other starchy foods and have a similar nutrient profile to some foods included in 5 A Day, such as sweetcorn**
- **Some believe that the exclusion of fresh potatoes from 5 A Day has disadvantaged potatoes as a fresh vegetable as it has given rise to a negative perception of their value as a healthy food source.**

Some participants were unclear as to why potatoes were excluded from the 5 A Day initiative. There is a very live and active debate as to whether or not potatoes should be included as part of the Department of Health's marketing campaign to eat five portions of fruit and vegetables a day. The government's 5 A Day strategy is based on a recommendation by the World Health Organisation (WHO) to eat 400g of fruit and vegetables per day. The majority of epidemiological research that the WHO based its recommendation on did not include potatoes as they sit in the starchy foods category. And, as a result, potatoes are not considered as one of the five 80g portions required each day. Potatoes are grouped with other starchy carbohydrates on the eatwell plate and are a source of important nutrients. The official advice is that plenty of starchy food, including potatoes, should be eaten. However, additional emphasis on potatoes as part of the starchy carbohydrates section could deliver further benefit to consumers in terms of nutrient availability and some participants felt that exclusion from 5 A Day had been an oversight, given the nutrients provided by potatoes.

As obesity levels increase and the issue rises further up the political agenda, it is important that people are well informed of what makes a balanced diet. Promotion of carbohydrates as an essential food group and potatoes (with no added fat) as a nutritious carbohydrate should feature in a central role. Some who advocate inclusion of fresh potatoes as part of 5 A Day acknowledge that it would result in the extension of the

total number to six or seven. It has also been suggested that fresh potatoes would need a cap similar to fruit juice if they were included, ie that they could only contribute one to the total per day.

Currently, there is a lack of consensus as to whether the inclusion of fresh potatoes as part of 5 A Day would lead to a major shift in demand. Some industry experts claim that health conscious consumers are put off because it is not included, while others claim that when people purchase fresh potatoes they have already made the decision to use them as part of a meal and whether they were in 5 A Day is an irrelevant factor on consumer choice. The 5 A Day logo is placed on other fruit and vegetables but there is debate as to the extent that this drives demand. In terms of convenience foods, multiple traffic light (MTL) labelling on the packet of ready meals has been shown to positively influence consumers to justify purchasing what is perceived as a guilty pleasure.

Potatoes are an environmentally sustainable food source

- **Britain's climate makes it an ideal country to grow potatoes. Water usage for potatoes grown in Great Britain is 29% of that compared to the main potato exporting countries to Great Britain**
- **Potato yields have increased by 18% in 20 years in GB, due to investment, innovation and research**
- **The industry has reduced the amount of fertiliser needed for potato growing by around one third in 20 years.**

Sustainability is high up the political agenda, whether it is in an environmental, economic or social context. Potato production is often perceived to involve high levels of water usage, however a core component of ensuring food security whilst ensuring environmental sustainability has to be producing food in climates best suited to growing conditions. The climate of Great Britain makes it an ideal potato growing country and as a result water usage for potatoes grown in Great Britain is 29% of that compared to the main potato exporting countries to Great Britain. Water usage for potatoes is also comparable to field vegetables that need to be irrigated during summer months. Additionally, 78% of water used in potato growing is so-called 'green water' (water that falls as rain and is used where it falls).

Losses from marketable product

There is a tendency for the environmental impact of potatoes to be misrepresented by discussions of waste in the supply chain. However, the use of the term waste is misleading and in reality loss would be more appropriate. Many potatoes are deemed not appropriate for sale due to market requirements, ie classified size and attractive skin finish. However, these can be used as feed for livestock and, although they do not make it to consumers, they are still used and enter the food chain and do not end up in landfill. The industry is continuing to advance best practice in order to cut down on losses of this nature by reducing scabbing through irrigation and improving storage and transport processes to reduce disease and bruising. However, there still remains an issue that consumers are not willing to buy 'ugly' potatoes even if there is no impact on taste.

Green house gas emissions

Green house gas (GHG) emissions is a key indicator of sustainability. GHG emissions for potato production vary between 110 and 640kg CO_2 per tonne, depending on whether whole life cycle is considered. It is important to note that like some other vegetables, potatoes require cooking, adding energy as part of the life cycle approach.

Potato growing emits comparatively low levels of Nitrous Oxide (N_2O), which has a global warming potential 300 times larger than Carbon Dioxide, compared to other agricultural crops. This is a result of improvements in growing practices, with the industry generally using one third less fertiliser inputs (1986-2006).

The industry is working hard to continue to innovate and improve its environmental performance. Key Performance Indicators (KPIs) have been introduced to benchmark industry and grower outputs and data received so far against these KPIs indicates that growers are getting closer to optimum performance. In addition to more environmentally efficient grower practices, new varieties of potato are being developed which require less water, less fertiliser and are more resistant to disease resulting in less loss and further efficiencies.

Meeting modern consumers' needs

- **Although fresh potatoes still report the highest sales, some consumers are switching to processed and ready meal formats**
- **Consumers have successfully reduced their amount of wastage, gaining more value from their spend**
- **Multiple traffic light labelling on ready meal packs has helped consumers make more informed, healthy choices.**

Meals in the 1950s and 1960s largely consisted of 'meat and two veg', of which one was, more often than not, potatoes. Over the latter half of the 20th century and the 21st century, what constitutes a 'traditional' meal in Great Britain has slowly diversified. There is now a larger variety of food available to the consumer and an increase in the influence of international cuisine. Subsequently, this has led to increased demand in the amount of other starchy carbohydrates, including rice and pasta.

The trend in the type of food consumed is overlaid by a general decrease in the quantity of food eaten, attributed, in part, to a decrease in active lifestyles and, therefore, less energy required from the diet. In recent years, carbohydrates have been commonly, and erroneously, associated with weight gain by the media. This has led to a link between carbohydrates and fat, putting risk to a healthy balanced diet for some consumers.

Further to changes in food preferences, there has been a fall in the amount of time people spend preparing food, favouring foods that take, on average, less cooking time including rice and pasta. In the main, there has also been a general reduction in people's ability, and willingness, to prepare meals from scratch leading to growth in the ready meal market.

Defra statistics show that household purchases of fresh and processed potatoes decreased by 8% between 2005/06 and 2008. Even with this overall decease and changes in food patterns, potatoes are still the most popular form of starchy carbohydrate in GB.

The consumption of fresh potatoes has decreased significantly and, in 2000, was less than half the level in 1942. Generally, consumers are switching instead to other forms of potato, such as chips, roast potatoes and other potato products, pasta, rice and miscellaneous cereals. Of the fresh potatoes that are bought and prepared in-home, boiled and baked are the most common. The trend away from fresh potatoes is particularly pronounced in younger generations, who can regard potatoes as boring and time-consuming to cook. They are also more inclined to buy meals on the day of eating and less likely to buy 'stand-by' food for consumption at an unspecified later date but are more likely to be adventurous and experiment with new varieties of potatoes.

A value product

Consumers are also becoming increasingly price conscious and looking for ways to spend more efficiently. This is also helping to drive the demand for ready meals as they are seen as good value for money and an effective way to control budgets. Potatoes offer the consumer excellent value for money as they are a low cost source of energy and nutrients and are therefore an attractive food for the price-sensitive shopper.

Consumers have been effective in reducing the waste produce they once bought by switching to smaller packs, buying loose potatoes or processed and ready meals. One of the ways the industry has responded is by providing smaller packs and in formats that provide solutions to consumers, although perhaps more can be developed in this area. This said, loose potatoes are more popular with the value-conscious shopper who finds them an effective way of reducing waste and the shopping bill, by only purchasing what they will eat. The value-conscious shopper also tends to prefer to buy the larger type of potatoes which offer better value for money.

Consumers are also increasingly aware of the nutritional content of meals, evidenced by an increase in the uptake of green and amber lighted food as part of MTL. Within the ready meal category there has been a drive towards deconstructed meals as they are often healthier and consumers feel like they have a better idea of what is in them. When these contain potatoes, there is a valuable opportunity to demonstrate to the consumer that potatoes are an important component of a healthy meal and help reverse the myths that carbohydrates are fattening and should be avoided.

In order to ensure that the trend away from fresh potatoes does not accelerate, potatoes have to be positioned for modern lifestyle choices. This will include promoting quicker

cooking methods and demonstrating how potatoes can be used as part of international dishes. One of the challenges facing fresh potatoes is that they are, more often than not, supermarket own brand but have to compete with other branded products. This means they are less able to create the emotional attachment with the consumer that branded products can.

A 'win-win' product to promote

The higher content of some vitamins and minerals in potatoes in comparison to other foods from the starchy food section of the eatwell plate and the relatively low environmental impact of the GB crop mean the potato is a win-win food for GB consumers. As food security becomes an increasingly important issue, the potato has a major role to play in providing a healthy, low impact food source. The trend towards healthier and more sustainable food demonstrates that potatoes have a crucial role to play in feeding the planet for the future. The potato industry must strengthen its positive messages around health and environmental sustainability with consumers. There is an important opportunity to increase the uptake of potatoes and to re-engage with consumers about this British staple.

Conclusion

The GB potato industry is worth £743m at farm gate value and £3.5bn at retail value.

The potato is still the number one source of starchy carbohydrate for the nation and should be further promoted as a versatile and easy-to-cook product, in addition to being healthy and environmentally sustainable. While it is important not to forget its heritage as a traditional British food, it needs to be part of the modern, multicultural offer of cuisine. Simple, clear messaging from sound evidence now in place, can be used to promote potatoes to a society who look for health and value in their diet.

Participating Organisations

- Agriculture and Horticulture Development Board (AHDB)
- Albert Bartlett and Sons Ltd
- Branston Ltd
- British Dietetic Association
- British Nutrition Foundation
- City University
- Co-op farms
- Cranfield University
- Defra
- Department of Health
- Food and Drink Federation
- Fresh Potato Suppliers Association (FPSA)
- Fresh Produce Consortium
- IGD
- McCain Foods (GB) Ltd
- National Farmers Union (NFU)
- Potato Council, a division of the Agriculture and Horticulture Development Board
- Potato Processors Association (PPA)
- Q V Foods Ltd
- Sainsbury's Supermarkets Ltd
- Tesco Stores Ltd
- WWF

Dr Elisabeth Weichselbaum

Elisabeth works at the British Nutrition Foundation as a Nutrition Scientist and has been involved in various projects within the science team. Her main publications included an in-depth review of probiotics and their effects on health, a review on apple polyphenols and CVD, an overview of the role of potatoes in the UK population and a briefing paper on 'Nutrition, health and schoolchildren'. She has also been involved in a major review on red meat. Elisabeth has also been involved in the dissemination and communication work of the EC-funded projects EuroFIR and EuroFIR Nexus (the follow-up of EuroFIR) and is involved in the European Food Framework project.

Elisabeth holds a Master's degree in human nutrition and did her PhD in human nutrition with a focus on public health nutrition at the University of Vienna, Austria. During her PhD studies she worked on the European Nutrition and Health Report 2004, of which she is an editor. She then worked as a Scientific Employee at a small centre of public health in Vienna, before coming to London and joining the BNF in June 2008.

Judith Batchelar

Director of Sainsbury's Brand for seven years, Judith is responsible for all aspects of Sainsbury's product offer, from Policy formation on aspects such as animal welfare, ethical and sustainable sourcing, through to product technology, product development, product safety and packaging. Essentially driving the quality and innovation agendas and protecting and enhancing the reputation of Sainsbury's Brand.

Prior to Sainsbury's, Judith held a similar role at Safeway, spent twelve years in the Food Division at Marks & Spencer, most latterly driving their Health and Well-being strategy, and prior to this worked in manufacturing for Mars and Bass.

She has worked in the Food and Drink Industry for 30 years, is a Biochemist and registered Nutritionist and, apart from loving her job, takes an active interest in Public Health matters, the Ballet, Rugby and the Performing Arts.

Professor Leon Terry

Professor Leon A Terry is Head of the Plant Science Laboratory at Cranfield University and heads Food Security and Environmental Health within Cranfield Health with responsibility over all 25 academic and research staff and 74 students in the area.

The Plant Science Laboratory is one of the largest groups dedicated to research, consultancy and education in postharvest science of fresh produce in the EU (ca. 20 members; (Leon Terry, 4 postdoctoral research officers, three laboratory technicians, 13 research students and one visiting professor).

His main research interests are fundamental postharvest physiology and biochemistry of fresh produce; postharvest pathology and disorders; shelf-life extension and quality evaluation; and sensor and product development (including packaging).

Potato Council is a division of the Agriculture and Horticulture Development Board

Potato Council
Agriculture and Horticulture Development Board
Stoneleigh Park, Warwickshire CV8 2TL

Telephone: 0247 669 2051
www.potato.org.uk